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(54) **ENERGY EFFICIENT VERTICAL CRYOGENIC TANK**

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(57) **ABSTRACT**

Disclosed herein is an energy efficient vertical cryogenic tank, which comprises a tank body with a vacuum insulation interlayer, wherein the tank body comprises a transmission means including an air return pipe and a liquid outlet pipe, and positioning means including supporting legs provided at the bottom of the tank body, and a built-in saturation adjustment mechanism formed by a heat exchanger connected to an let of the air return pipe and a return air dispersing device. By using a saturation adjustment mechanism at the inlet of the air return pipe, the cryogenic storage tank can not only fully leverage the gasification gas produced at the pump, but also achieve the saturation function of the LNG in the tank, with such benefits as reduced energy loss, simplified tank interface settings, improved efficiency of saturation adjustment, and avoided pump cavitation.

8 Claims, 5 Drawing Sheets

